

CLAIMS

What is claimed is:

1 1. A compression-paddle mixer comprising:

2 a compression paddle with one or more sets of two paddle blades on
3 paddle spokes that are extended radially from a paddle rod;

4 the paddle blades being juxtaposed colinearly to the paddle rod;

5 the paddle rod having a direction of rotation that is transmitted from a
6 predetermined power source;

7 the one or more sets of the two paddle blades having circumferential
8 travel in a direction of the circumferential travel that is transmitted through the
9 paddle spokes by the rotation of the paddle rod;

10 the one or more sets of the two paddle blades having channel-funneled
11 orientations in the direction of the circumferential travel of the one or more sets of
12 the two paddle blades;

13 the channel-funneled orientations include channel-funnel inlets having
14 funnel-inlet areas intermediate leading edges of the paddle blades of the one or more
15 sets of the paddle blades in the direction of the circumferential travel of the one or
16 more sets of the two paddle blades;

17 the channel-funneled orientations include channel-funnel outlets having
18 funnel-outlet areas intermediate trailing edges of the paddle blades of the one or
19 more sets of the two paddle blades; and

20 the funnel-inlet areas are predeterminedly larger than the funnel-outlet
21 areas.

1 2. The compression-paddle mixer of claim 1 wherein:
2 the channel-funneled orientations have compression ratios that are
3 defined by ratios of the channel-funnel inlet areas to the channel-funnel outlet areas
4 of the one or more sets of the two paddle blades.

1 3. The compression-paddle mixer of claim 2 wherein:
2 the compression ratios are higher predeterminedly for mixes having
3 high liquidity than for mixes having low liquidity.

1 4. The compression-paddle mixer of claim 2 wherein:
2 the rotation of the paddle rod has a speed of rotation that is higher
3 predeterminedly for the mixes having the high liquidity than for the mixes having
4 the low liquidity.

1 5. The compression-paddle mixer of claim 1 wherein:
2 the compression paddle has size, shape and structure articulated for
3 predetermined quantities of mix.

1 6. The compression-paddle mixer of claim 5 wherein:
2 the predetermined quantities of mix include quantities ranging from one-
3 to-pluralities of barrels to one-to-pluralities of pints.

1 7. The compression-paddle mixer of claim 1 and further comprising:
2 a mix container having a cylindrical interior periphery;
3 the cylindrical interior periphery having a predetermined quantitative
4 capacity of a plurality of select quantitative units;
5 the compression paddle having a paddle radius defined by a longest
6 extremity of the compression paddle from a center of the paddle rod;
7 the paddle radius being articulated to fit and to rotate predeterminedly
8 within the cylindrical interior of the mix container; and
9 the paddle blades having lengths that approximate a length of the
10 cylindrical interior periphery of the mix container.

1 8. The compression-paddle mixer of claim 7 wherein:
2 the select quantitative units include quantitative units ranging from
3 barrels to pints.

1 9. The compression-paddle mixer of claim 8 wherein:
2 the compression paddle and the mix container have structure articulated
3 for mixing predetermined consistencies of mix.

1 10. The compression-paddle mixer of claim 9 wherein:
2 the predetermined consistencies of mix include particulate substances
3 having construction-item consistencies of gravel, sand, cement, mortar, clay,
4 alkalines and metallic particles selectively; and
5 the production-item consistencies of mix include liquids having
6 consistencies of water, liquidity modifiers, acid and petrochemicals selectively.

1 **11.** The compression-paddle mixer of claim 9 wherein:

2 the predetermined consistencies of mix include non-production-item
3 consistencies of flour, sugar, food particles, dyes and seasoning selectively; and
4 the non-production-item consistencies of mix include water, liquid food
5 substances, honey, coloring, alcohol and preservatives selectively.

1 **12.** The compression-paddle mixer of claim 1 wherein:

2 the compression paddle has a paddle radius defined by a longest
3 extremity of the compression paddle from a center of the paddle rod; and
4 the compression paddle fits rotatably in a mix container in which
5 radially outside extremities of the paddle blades rotate in sliding proximity to an
6 inside periphery of a cylindrical portion of the mix container.

1 **13.** The compression-paddle mixer of claim 12 wherein:

2 the cylindrical portion of the mix container has a length that is
3 predeterminedly proximate a length of the paddle blades of the compression paddle.

1 **14.** The compression-paddle mixer of claim 13 wherein:

2 the paddle blades of the compression paddle have lengths which are
3 predeterminedly longer than two radii of the compression paddle.

1 **15.** The compression-paddle mixer of claim 1 wherein:

2 the paddle blades have blade edges and blade thicknesses structured for
3 ease of insertion into and removal from predetermined mix in the mix container.

1 **16.** The compression-paddle mixer of claim 1 wherein:
2 the paddle rod has a rod-insertion end and rod thickness structured for
3 ease of insertion into and removal from the predetermined mix in the mix container.

1 **17.** The compression-paddle mixer of claim 1 wherein:
2 the paddle spokes have thicknesses and structure articulated for ease of
3 insertion into and removal from the predetermined mix in the mix container.

1 **18.** The compression-paddle mixer of claim 1 wherein:
2 the paddle blades have blade edges and blade thicknesses structured for
3 ease of insertion into and removal from predetermined mix in the mix container;
4 the paddle rod has a rod-insertion end and rod thickness structured for
5 ease of insertion into and removal from the predetermined mix in the mix container;
6 and
7 the paddle spokes have thicknesses and structure articulated for ease of
8 insertion into and removal from the predetermined mix in the mix container.

1 **19.** The compression-paddle mixer of claim 1 wherein:
2 the paddle rod has a rod-power end with a power-source connection
3 articulated for rotation-transmissive connection to the predetermined power source.

1 **20.** The compression-paddle mixer of claim 1 wherein:

2 the compression paddle has a paddle radius defined by a longest
3 extremity of the compression paddle from a center of the paddle rod;

4 the compression paddle fits rotatably in a mix container in which
5 radially outside extremities of the paddle blades rotate in sliding proximity to an
6 inside periphery of a cylindrical portion of the mix container;

7 the cylindrical portion of the mix container has a length that is
8 predeterminedly proximate a length of the paddle blades of the compression paddle;

9 the mix container includes a container bottom that is flat and orthogonal
10 to an axis of the paddle rod; and

11 the paddle blades have blade bottoms that travel circumferentially in
12 predetermined proximity to the container bottom.

13 **21.** The compression-paddle mixer of claim 20 wherein:

14 the container bottom includes a valved opening.

15 **22.** The compression-paddle mixer of claim 21 wherein:

16 the container bottom is positioned on a riser to raise the container
17 bottom predeterminedly above a container-support surface for allowing exit of the
18 mix from the mix container predeterminedly.

1 **23.** A compression-paddle mixer comprising:

2 a compression paddle having two sets of two paddle blades on paddle
3 spokes that are extended radially from a paddle rod;

4 the paddle blades being juxtaposed colinearly to the paddle rod;

5 the two sets of the two paddle blades are oppositely disposed radially
6 from the paddle rod;

7 the paddle rod having a direction of rotation that is transmitted from a
8 predetermined power source;

9 the two sets of the two paddle blades having circumferential travel in
10 a direction of the circumferential travel that is transmitted through the paddle spokes
11 by the rotation of the paddle rod;

12 the two sets of the two paddle blades having channel-funneled
13 orientations in the direction of the circumferential travel of the two sets of the two
14 paddle blades;

15 the channel-funneled orientations include channel-funnel inlets having
16 funnel-inlet areas intermediate leading edges of the paddle blades of the two sets of
17 the paddle blades in the direction of the circumferential travel thereof;

18 the channel-funneled orientations include channel-funnel outlets having
19 funnel-outlet areas intermediate trailing edges of the paddle blades of the two sets
20 of the two paddle blades;

21 the funnel-inlet areas are predeterminedly larger than the funnel-outlet
22 areas;

23 the channel-funneled orientations have compression ratios that are
24 defined by ratios of the channel-funnel inlet areas to the channel-funnel outlet areas
25 of the two sets of the two paddle blades;

26 the compression ratios are higher predeterminedly for mixes having
27 high liquidity than for mixes having low liquidity; and

28 the rotation of the paddle rod has a speed of rotation that is higher
29 predeterminedly for the mixes having the high liquidity than for the mixes having
30 the low liquidity.

1 **24.** The compression-paddle mixer of claim **23** wherein:

2 the compression paddle has size, shape and structure articulated for
3 predetermined quantities of mix;

4 the predetermined quantities of mix include quantities ranging from
5 pluralities of barrels to pluralities of pints.

1 **25.** The compression-paddle mixer of claim **23** and further comprising:

2 a mix container having a cylindrical interior periphery;

3 the cylindrical interior periphery having a predetermined quantitative
4 capacity of a plurality of select quantitative units;

5 the compression paddle having a paddle radius defined by a longest
6 extremity of the compression paddle from a center of the paddle rod;

7 the paddle radius being articulated to fit and to rotate predeterminedly
8 within the cylindrical interior of the mix container;

9 the paddle blades having lengths that approximate a length of the
10 cylindrical interior periphery of the mix container;

11 the select quantitative units include quantitative units ranging from
12 barrels to pints; and

13 the compression paddle and the mix container have structure articulated
14 for predetermined consistencies of mix.

1 **26.** The compression-paddle mixer of claim **25** wherein:

2 the predetermined consistencies of mix include gravel, sand, cement,
3 mortar, clay, alkalines, and metallic particles selectively; and

4 the predetermined consistencies of mix include water, acid and
5 petrochemicals selectively.

1 **27.** The compression-paddle mixer of claim **25** wherein:

2 the predetermined consistencies of mix include flour, sugar, food
3 particles and seasoning selectively; and

4 the predetermined consistencies of mix include water, liquid food
5 substances, honey, coloring, alcohol and preservatives selectively.

1 **28.** The compression-paddle mixer of claim **23** wherein:

2 the compression paddle has a paddle radius defined by a longest
3 extremity of the compression paddle from a center of the paddle rod; and

4 the compression paddle fits rotatably in a mix container in which
5 radially outside extremities of the paddle blades rotate in sliding proximity to an
6 inside periphery of a cylindrical portion of the mix container;

7 the cylindrical portion of the mix container has a length that is
8 predeterminedly proximate a length of the paddle blades of the compression paddle;
9 and

10 the paddle blades of the compression paddle have lengths which are
11 predeterminedly longer than two radii of the compression paddle.

1 **29.** The compression-paddle mixer of claim **23** wherein:

2 the paddle blades have blade edges and blade thicknesses structured for
3 ease of insertion into and removal from predetermined mix in the mix container;

4 the paddle rod has a rod-insertion end and rod thickness structured for
5 ease of insertion into and removal from the predetermined mix in the mix container;

6 the paddle spokes have thicknesses and structure articulated for ease of
7 insertion into and removal from the predetermined mix in the mix container.; and

8 the paddle rod has a rod-power end with a power-source connection
9 articulated for rotation-transmissive connection to the predetermined power source.

10 **30.** A compression-paddle mixer comprising:

11 a compression paddle having two sets of two paddle blades on paddle
12 spokes that are extended radially from a paddle rod;

13 the paddle blades being juxtaposed colinearly to the paddle rod;

14 the two sets of the two paddle blades are oppositely disposed radially
from the paddle rod;

 the paddle rod having a direction of rotation that is transmitted from a
predetermined power source;

 the two sets of the two paddle blades having circumferential travel in
a direction of the circumferential travel that is transmitted through the paddle spokes
by the rotation of the paddle rod;

 the two sets of the two paddle blades having channel-funneled
orientations in the direction of the circumferential travel of the two sets of the two
paddle blades;

the channel-funneled orientations include channel-funnel inlets having funnel-inlet areas intermediate leading edges of the paddle blades of the two sets of the paddle blades in the direction of the circumferential travel thereof;

the channel-funneled orientations include channel-funnel outlets having funnel-outlet areas intermediate trailing edges of the paddle blades of the two sets of the two paddle blades;

the funnel-inlet areas are predeterminedly larger than the funnel-outlet areas; and

the channel-funneled orientations have compression ratios that are defined by ratios of the channel-funnel inlet areas to the channel-funnel outlet areas of the two sets of the two paddle blades.

31. The compression-paddle mixer of claim 30 wherein:

the compression paddle has a paddle radius defined by a longest extremity of the compression paddle from a center of the paddle rod;

the compression paddle fits rotatably in a mix container in which radially outside extremities of the paddle blades rotate in sliding proximity to an inside periphery of a cylindrical portion of the mix container;


the cylindrical portion of the mix container has a length that is predeterminedly proximate a length of the paddle blades of the compression paddle;

the mix container includes a container bottom that is flat and orthogonal to an axis of the paddle rod; and

the paddle blades have blade bottoms that travel circumferentially in predetermined proximity to the container bottom.

1 **32.** The compression-paddle mixer of claim **31** wherein:
2 the container bottom includes a valved opening; and
3 the container bottom has a bottom exterior that is raised
4 predeterminedly above a container-support surface for allowing exit of the mix from
5 the mix container predeterminedly.

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